

First Use of the StimRouter Peripheral Nerve Stimulation for the Treatment of Brachial Plexus Related Neuropathic Arm Pain in the United Kingdom

Authors

Dr Andy Whelan; Consultant in Chronic Pain and Anaesthetics

Dr Sheila Black; Consultant in Chronic pain and Anaesthetics

Leeds Teaching Hospitals Trust

Introduction

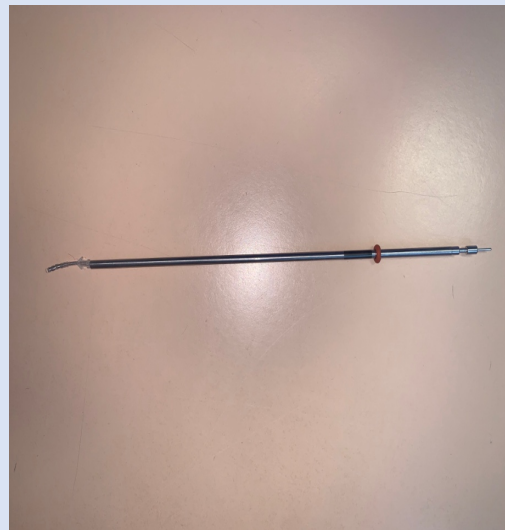
This case report is the first use of the StimRouter peripheral nerve stimulator for the treatment of brachial plexus related neuropathic pain in the UK.

Methods

The patient had previously been treated for a left submandibular squamous cell carcinoma with a left sided modified radical neck dissection and adjuvant chemotherapy. Following this, he suffered with neuropathic left-sided neck, shoulder and arm pain which disturbed his sleep. Analgesic therapy included Pregabalin, transdermal opioid patch, Duloxetine and PRN opioids. Pain was not controlled with medication and the patient was referred for consideration of an interventional option.

A diagnostic left-sided interscalene brachial plexus block performed under ultrasound was effective at temporarily providing complete relief of his pain and isolated his pain source to the left brachial plexus. Treatment with a Bioness StimRouter was therefore considered. Following a neuromodulation information session, the procedure was performed in theatre using local anaesthesia under ultrasound guidance; no sedation was required.

The StimRouter[®] was sited in the brachial plexus sheath using a posterior interscalene approach. On the table sensory testing demonstrated paraesthesia present throughout the left arm and utilised a pulse width of 200 milliseconds, a frequency of 100 hertz, and a current of 1.7milliamps.



Discussion and conclusions

The patient went home uneventfully and was followed up for reprogramming and stimulator optimisation. At six months the patient reported that his pain was well controlled using the StimRouter[®].

Where a diagnostic block has identified the painful nerve/plexus then peripheral nerve stimulation should be considered as a minimally invasive technique in the treatment of neuropathic pain when standard therapies have failed. Peripheral nerve stimulators represent a long-term treatment option that avoids implanting a pulse generator battery. We hope through utilising the StimRouter to treat a painful brachial plexopathy this may increase use of peripheral nerve stimulation as a viable treatment modality for neuropathic arm pain.

